

## **Chapter 17.18**

### **MAINS, PIPES, AND VALVES**

*(The Operative Date of Ordinance No. 18265 passed November 3, 2003 is JANUARY 4, 2004).*

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#### **17.18.005 Scope.**

The provisions of this title relating to installation of service shall apply only to the installation of service from the main to and including the meter and backflow prevention assembly, if required. The plumbing code as adopted by the city shall apply to all plumbing installations beyond the meter and backflow prevention assembly, if required. (Ord. 18265 §1; November 3, 2003; prior Ord. 13892 §44; July 16, 1984).

#### **17.18.006 Water Service Manual.**

The City of Lincoln shall publish standards, methods, and approved materials and devices in a Water Service Manual to be adopted and amended by resolution of the City Council. The purpose of such manual is to describe the methods and requirements for installing, maintaining and repairing water supply pipes, water service pipes, stop boxes, meters, backflow prevention assemblies and the relocation of fire hydrants in accordance with the applicable provisions of Title 17 of the Lincoln Municipal Code. (Ord. 18265 §2; November 3, 2003).

#### **17.18.010 Making of Tap.**

A permit in accordance with Chapter 17.10 shall be secured prior to excavation of any water main. The Director shall be given at least six hours notice prior to the time any tap to the main is desired. Before such tap is made, all permits required by the City for the performance of such work shall be secured and paid for by the applicant, and all necessary excavation shall be completed and adequately protected for worker safety in accordance with federal, state, and local requirements. (Ord. 18265 §2; November 3, 2003; prior Ord. 13892 §45; July 16, 1984).

#### **17.18.020 Size of Tap, Supply Pipe, and Service Pipe.**

Each premises supplied with water must have a separate supply connection, supply pipe, curb stop, stop box, service pipe, and water meter. The minimum size tap for each new supply pipe shall be three-fourths inch in diameter. The minimum size tap for a replacement water supply pipe shall be three-fourths inch in diameter. All three-fourths inch and one-inch taps to the main shall be made with the use of a corporation stop. All taps greater than one inch in diameter shall be made by the Lincoln Water System with the use of a tapping sleeve and valve, in which case the curb stop shall be the tap valve on the main. The size of the supply pipe and service pipe shall be the same as the tap, except that one-and-one-half-inch, two-inch, and three-inch supply or service pipes shall be connected with a four-inch tapping sleeve and valve and reducer fitting. The reducer for one-and-one-half-inch, two-inch, and three-inch service pipes shall be supplied by the Lincoln Water System. (Ord. 18265 §3; November 3, 2003; prior Ord. 13892 §46; July 16, 1984).

#### **17.18.030 Supply and Service Pipes.**

(a) New construction. All supply and service pipes conveying city water shall be made of materials of the type approved by the Director.

All new construction shall require a new water service unless the existing water service (water service includes tap, supply pipe, stop box, service pipe, and inlet valve) is less than three years old, as indicated on water tap records maintained by the Lincoln Water System.

Each supply pipe and each service pipe shall have an earth cover of not less than five feet below the finished grade. There shall be no joints within copper supply pipes. There shall be no joints within copper service pipes from one foot outside the service entrance of the building to the meter.

(b) Repair. When a supply pipe needing repair is determined to be of a material such as galvanized steel, lead, pitted copper, or other material deemed to be unacceptable by the Director, the supply pipe shall be replaced.

When a water supply pipe or water service pipe is of acceptable material, it may be repaired. (Ord. 18265 §4; November 3, 2003; prior Ord. 18041 §1; July 22, 2002; Ord. 13892 §47; July 16, 1984).

#### **17.18.040 Water Pipes to be Installed in Separate Trenches.**

No customer service pipe connected with the water main shall be installed in a trench containing a sewer pipe or any other pipe carrying sewage, nor shall any sewer pipe or pipe carrying sewage be installed in a trench containing a customer service pipe connected with the city water main. The customer service pipe and the building drain or building sewer shall be not less than thirty-six inches apart horizontally, and shall be separated by undisturbed or compacted earth. Customer service pipes shall not

be located in, under, or above cesspools, septic tanks, septic tank drainage fields, or seepage pits. A separation of ten feet shall be maintained. Where the customer service pipe must cross the sewer line, the bottom of the customer service pipe within ten feet of the point of crossing shall be at least eighteen inches above the top of the sewer line. The sewer line shall be of either ductile iron or PVC pressure pipe rated not less than one hundred fifty pounds working pressure, at least ten feet on both sides of the crossing. When the sewer line and customer service pipe cross and the sewer line is found to be above the customer service pipe and within eighteen inches of the sewer line, the sewer line may be replaced with either ductile iron or PVC pressure pipe if ordered by the Lincoln Water System at its cost and expense. Combination stop-an-waste valves or cocks shall not be installed underground in water service piping.

All pipes connected with water mains shall be installed a minimum of thirty-six inches apart. Customer service pipes shall be separated at least thirty-six inches from any gas service. (Ord. 13892 §48; July 16, 1984).

#### **17.18.050 Curb Stop.**

There shall be a curb stop connected to every three-fourths inch and one inch supply pipe. The curb stop shall be supplied by the registered master plumber in accordance with the following specifications:

Curb stop shall be Minneapolis pattern oriseal or ball valve, or an equal type approved by the Director, full round way, straight-through flow with Teflon-coated plug or ball.

Each curb stop and fitting shall be of a size not less than the size of the supply pipe. Each curb stop shall be placed in the public right-of-way between the sidewalk and the curb of a public street or in a similar location in a private street system, except that if the main is located in an alley then the curb stop shall be placed within two feet inside the property line. In townhouse developments, individual stop boxes shall be located a minimum of five feet from any building. Every curb stop shall be enclosed in a stop box having a tight-fitting lid, all of which shall be supplied by the plumber in accordance with the following specifications:

Stop box shall be cast-iron Minneapolis pattern type with one and one-fourths inches diameter upper section and brass pentagon head plug. (Ord. 18265 §5; November 3, 2003; prior Ord. 13892 §49; July 16, 1984).

#### **17.18.060 Meter Installation.**

All water meters shall be furnished by the Lincoln Water System. All water meters three-fourths inch and one inch in size shall be installed only by the Lincoln Water System.

All water meters must be approved by the Director prior to installation. Meter stops and meter couplings or flanges furnished by the Lincoln Water System shall be installed directly to both sides of the water meter.

Where such meters of one and one-half inches in diameter or larger are installed, a bypass and valve shall also be installed of the same size as the water meter. The Lincoln Water System shall furnish one-and-one-half-inch and two-inch lockable bypass valves when a bypass is required. The bypass valve shall be sealed by the Director upon final inspection of the installation and such bypass valve shall be opened only by the Director.

All water meters shall be installed in an upright horizontal position. The water meter register shall face directly upwards.

Meters, when required, must be kept readily accessible with sufficient clearances for replacement, maintenance, and testing.

Water meters shall be protected from damage by freezing either by installation in the heated area of the building or by installation in a meter structure or building capable of preventing the meter apparatus from freezing as approved for construction by the Director, provided the structure or building is not considered a confined space by the Occupational Safety and Health Administration. Unless otherwise approved by the Director, all water meters shall be located inside the building served. (Ord. 18265 §6; November 3, 2003; prior Ord. 13892 §50; July 16, 1984).

#### **17.18.070 Remote Meter Reading Device.**

A remote meter reading device furnished by the Lincoln Water System shall be installed at any customer water service installation where required by the Director, the location of which shall be determined by the Director. (Ord. 13892 §51; July 16, 1984).

#### **17.18.080 Cross Connection Control and Backflow Prevention.**

(a) No person, company, corporation, or institution shall establish or permit to be established, or maintained or permit to be maintained, any unprotected cross connection which might lead to the pollution or contamination of the public water supply of the Lincoln Water System. Cross connection control and backflow prevention, and maintenance and repair thereof, shall be the responsibility of the premise or building owner. Any plumbing connections for the withdrawal from or replenishment of private, auxiliary, or emergency water supplies and the method of connection and the use of such supplies shall be approved by the Director.

(b) Cross connections between the Lincoln Water System public water supply and other systems shall be prohibited by the Director.

(c) Responsibility of Owner. It shall be the responsibility of all owners of any property served by the Lincoln Water System and any private, auxiliary or emergency water supply to notify the Lincoln Water System of such private, auxiliary, or emergency water supply. Upon notification, the Lincoln Water System will cause to be conducted a survey of the property pursuant to subsection (d) of this section. If, after such survey, a cross connection is determined to exist, the owner shall be required to undertake the necessary corrective measures to eliminate the cross connection. The costs of all corrective measures shall be at the owner's expense.

(d) Surveys. The Director shall have authority and may at any time cause surveys and investigations to be made of any property or properties served by the Lincoln Water System where cross connections with private, auxiliary or emergency water supplies are known to exist or where such supplies are likely to exist.

The Director shall also cause surveys and investigations to be made of all properties where cross connected piping installations are likely to exist that may result in the pollution or contamination of the water supply of the Lincoln Water System. Such surveys and investigations shall be recorded with the Lincoln Water System, and may be repeated as often as the Director shall deem necessary or advisable.

(e) Maintenance Requirements. It shall be the responsibility of all customers of the Lincoln Water System that have cross connections to maintain all cross connection control in working condition and to make no piping or other connection to bypass any device, unless approved by the Director.

Backflow prevention assemblies shall not be bypassed, made inoperative, removed, or otherwise made ineffective.

(f) All testable backflow prevention assemblies shall be tested at least annually by a Registered Grade 6 Operator. Backflow prevention assemblies may be tested more frequently when required by the Director. This requirement does not apply to lawn sprinkler systems, except those that are equipped with booster pumps or chemical injection systems.

(g) Discontinuance of Service. The Director is authorized to discontinue, with notice, the water service to any property where any connection or defective backflow prevention assembly(s) in violation of the provisions of Lincoln Municipal Code is known to exist, and to take precautionary measures to eliminate any danger of pollution or contamination of the public water supply.

Water service to such property shall not be restored until such connection or connections or defective assembly(s) shall have been eliminated or corrected, in compliance with the Lincoln Municipal Code.

(h) Where contaminants or pollutants potentially harmful or dangerous to health or welfare are used with any device or through any process connected to the water system, the customer shall install and maintain a backflow prevention device of the type known as a reduced pressure backflow prevention device.

(i) When the Lincoln Water System determines there is an existing or potential pollution hazard, not dangerous to health, the customer shall install and maintain a backflow prevention device of the type known as a double check valve assembly. (Ord. 18265 §7; November 3, 2003; prior Ord. 13892 §5; July 16, 1984).

#### **17.18.090 Backflow Prevention Assembly Installation.**

(a) Installations that require the customer to install a containment backflow preventer assembly shall have the backflow preventer assembly installed adjacent to the water meter on the outlet side of the water meter.

(b) All installations that require bypass piping shall have a second backflow prevention assembly installed on the bypass piping in a configuration that provides water flow through both backflow prevention assemblies.

(c) When backflow prevention assemblies are required, they shall be installed in an upright horizontal position. All non-residential service and supply installations shall require the installation of a backflow prevention assembly and bypass piping approved by the Lincoln Water System.

(d) When a closed system is protected by an approved backflow prevention assembly, properly sized thermal expansion devices shall be installed to protect the plumbing from damage.

(e) Containment backflow prevention assemblies shall not be bypassed without installing a backflow prevention assembly that is designated to be of equal or greater protection on the bypass piping.

(f) Isolation backflow prevention assemblies shall be installed at the point of cross-connection within the plumbing system in accordance with Lincoln Municipal Code Title 24.

(g) Backflow prevention assemblies shall require a minimum of one foot between the lowest portion of the assembly and the grade, floor or platform. Installations more than five feet above the floor or grade shall not be allowed, unless a permanent platform constructed with the proper stairs, and railings is installed to provide safe access for required testing or repair.

(h) All buildings greater than thirty feet in height (measured from the lowest exposed grade adjacent to the building to the ceiling height of the upper most level, not including the roof structure) except for single family residences, shall require the installation of a backflow prevention assembly and bypass piping approved by the Lincoln Water System.

(i) Installation of reduced pressure backflow prevention assemblies shall provide for the discharge of water to a suitable drain.

(j) Customers shall construct and maintain backflow prevention assemblies within a structure or building capable of preventing the backflow prevention assembly from freezing at such a location, in such a manner, and of such materials as may be designated by the Director, provided the structure or building is not considered a confined space by the Occupational Safety and Health Administration. (Ord. 18265 §8; November 3, 2003).

#### **17.18.100 Ownership, Maintenance, Repair and Replacement of Corporation Stops, Water Meters and Other Responsibilities.**

The Lincoln Water System shall retain title to and have the responsibility of maintaining, repairing, and replacing all such meters. Provided, however, that if any such repair or replacement is caused by the negligence or willful act of the owner or occupant of the premises served thereby, the cost of such repair or replacement shall be charged to the owner of such premises.

After notification, the Director may require the discontinuance of water service until such time as the necessary work can be performed, under any of the following circumstances: a water meter requires maintenance, checking for accuracy, or replacement; signal reading failure; tampering with the water meter is suspected; and the customer will not allow Lincoln Water System personnel access to the water meter to perform any of the activities outlined herein.

When the Lincoln Water System tests a water meter and determines that the meter has failed the testing, the Lincoln Water System will make the required repair as soon as possible. (Ord. 18265 §9; November 3, 2003; prior Ord. 13892 §54; July 16, 1984).

#### **17.18.110 Owner of Premises to Keep Equipment in Repair.**

The owner of each premises shall retain ownership and shall maintain all supply connections, supply pipes, stop boxes, curb stops, valve boxes, service pipes, meter vaults, meter structures, and backflow prevention assemblies for such premises in good repair and operable condition at their own expense. (Ord. 18265 §10; November 3, 2003; prior Ord. 13892 §55; July 16, 1984).

#### **17.18.120 Stop Box, Valve Box and Meter Vault Unobstructed.**

The owner of each premises supplied with water shall at all times keep the stop box, valve box and meter vault for such premises unobstructed and at finished grade level. Upon failure of any owner to comply with this requirement, the Lincoln Water System may have such work done and bill the actual cost thereof to such owner of premises, the same to be responsible therefor. (Ord. 13892 §56; July 16, 1984).

#### **17.18.130 Separate Connections for Each Premises.**

Not more than one premises can be supplied from one supply and service pipe. Where more than one premises is found to be supplied from one supply and service pipe, the owners of the premises so supplied shall be notified to make separate connections for each premises, when required by the Director.

If such owners fail to make such changes, the Lincoln Water System shall discontinue the service to said premises and shall not again serve said premises until separate supply and service pipes are installed.

A premise may be supplied by more than one supply and service pipe with the approval of the Director. (Ord. 18265 §11; November 3, 2003; prior Ord. 13892 §57; July 16, 1984).

#### **17.18.140 Excavations.**

Streets shall be opened in a manner which will occasion the least inconvenience to the public and permit the uninterrupted passage of surface water along the gutters. All excavations shall be made in compliance with the requirements of municipal, state, and federal regulations. (Ord. 18265 §12; November 3, 2003; prior Ord. 13892 §58; July 16, 1984).

#### **17.18.150 Director Relieved from Personal Liability.**

The city shall hold harmless the Director when acting in good faith and without malice, from all personal liability for any damage that may accrue to any person or property as a result of any act required or authorized by this title, or by reason of any act of omission of the Director in the discharge of his duties hereunder. Any suit brought carrying out the provisions of this title shall be defended by the City's Law Department, or by the city's insurance carrier, if any, through final determination of such proceedings. (Ord. 13892 §59; July 16, 1984).

#### **17.18.160 Locating Leaks.**

When there is a water leak from a public main, customer supply pipe, curb stop, or customer service pipe in any street or alley, or other public right-of-way and its is uncertain where such leak originates and the owner of the premises chooses not to make the necessary excavation to ascertain the location of such leak, the Lincoln Water System shall make the necessary excavation. If, after making such an excavation, the leak is found to be in the customer supply pipe, curb stop, or customer service pipe, the owner of the premises, or the owner's registered master plumber, shall immediately obtain the necessary excavation permit, repair such leak, backfill the excavation, and pay the Lincoln Water System the cost of making the excavation. The Lincoln Water System may shut off the water to any premises where the owner has failed to repair such leak, pay the cost of such excavation, or take out an excavation permit.

If after notification by the Lincoln Water System that a water leak may be on the customer supply pipe, curb stop, or customer service pipe and if after the owner of the premises has had their registered master plumber make the necessary excavation, and the leak is found to be from a public main, the Lincoln Water System shall immediately repair such leak, backfill the excavation, and pay the cost of making the excavation.

If the owner of the premises makes an excavation, assuming the leak is on the customer supply pipe, curb stop, or customer service pipe, without notification from the Lincoln Water System, the owner of the premises who made the excavation shall be responsible to pay the cost of the excavation even if the leak is on the public main.

All work performed under this section shall be in accordance with Section 17.10.010. (Ord. 18265 §13; November 13, 2003; prior Ord. 13892 §60; July 16, 1984).